

Amendments to the Drawings:

The attached sheets of drawing include changes to Figs. 1 – 9. These sheets, which include Figs. 1 – 9, replace the original sheets including Figs. 1 – 9. In the replaced Figs. 1 – 9, a legend –Prior Art – has been added.

Attachment:

Replacement Sheets

Annotated Sheets Showing Changes Made

REMARKS

In this Amendment, Applicant has cancelled Claim 2 without prejudice or disclaimer, and amended Claim 1. Claim 1 has been amended to specify different embodiments of the present invention and overcome the rejection. It is respectfully submitted that no new matter has been introduced by the amended claims. All claims are now present for examination and favorable reconsideration is respectfully requested in view of the preceding amendments and the following comments.

OBJECTION TO DRAWINGS:

The drawing have been objected as failing to provide the legend of –Prior Art – to indicate the conventional art.

It is respectfully submitted that the Figs. 1 – 9 have been amended to provide the legend of –Prior Art – to indicate the conventional art. It is respectfully submitted that there is sufficient support for the amended Figs. 1 – 9 in the specification, especially the descriptions at page 8, lines 16 – 36 of the specification.

Therefore, the objection to the drawing has been overcome and withdrawal of objection is respectfully requested.

REJECTIONS UNDER 35 U.S.C. §103:

Claim 1 has been rejected under 35 U.S.C. §103 as allegedly being unpatentable over Kimura (US 5,602,559); Claim 2 has been rejected under 35 U.S.C. §103 as allegedly being unpatentable over Kimura in view of Hudson (US 2003/0210257); Claim 3 has been rejected under 35 U.S.C. §103 as allegedly being unpatentable over Kimura in view of Chen (US 2003/0080931).

Applicant traverses the rejection and respectfully submits that the embodiments of present-claimed invention are not obvious over the cited prior art references. At first, Claim 2 has been cancelled without prejudice or disclaimer. Therefore, rejection to this claim is moot. In addition, Claim 1 has been amended to include the features that are not disclosed or suggested in Kiruma, Hudson or Chen. More specifically, Claim 1 is amended such that one field is divided into a plurality of subfields B'0 to B'5 (see Fig. 10) including at least one subfield, such as B'5. This subfield has one or more display-off periods (V_{th} is supplied, see page 10, lines 31 – 32) for which the liquid crystal is not driven and one or more of display-on periods (V_p -supplying periods, see page 11, line 13) for which the liquid crystal is driven. Each display-off period (V_{th}) is always located between two adjacent display-on periods (V_p) and a ratio of the total of display-on periods including the display-on periods of the one subfield over the subfield to the one field is in the range from 1 : 6 to 5 : 6 (see page 11, lines 2 – 6). Claim 3 also include these features due to its dependency on Claim 1.

As discussed in page 10, lines 8 – 16 of the specification, the present invention defines a specific ratio of the total of display-on periods over subfields to one field in order to gain a large light output while suppressing disclination in a vertically aligned liquid crystal display.

The present invention solves the problem of disclination generated in a vertically aligned liquid crystal display, as discussed in the Background of the Invention section of the specification, which is not a problem for the Kimura's ferroelectric liquid crystal.

One feature of the present invention as amended in Claim 1 is that each display-off period (V_{th}) is always located between two adjacent display-on periods (V_p).

In contrast, in Kimura's Fig. 19, there is no display-off period between two adjacent display-on periods, for example, between a display-on period at gradation 8 in a block 1 and another display-on period at gradation 4 in a block 2. The Kimura's ferroelectric liquid crystal does not suffer disclination even though no display-off period

is located between two adjacent display-off periods. In col. 2, lines 24 – 28, Kimura discloses that the method in Fig. 9 has a problem that transmission is considerably lowered. Therefore, the method in Fig. 19 does not achieve a larger light output while suppressing disclination due to lowered transmission (a smaller light output).

As discussed, Kimura's device is not a vertically aligned liquid crystal display but a ferroelectric liquid crystal display, with display-on periods arranged different from those in the amended Claim 1.

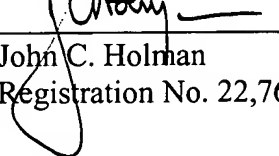
Therefore, the rejection under 35 U.S.C. §103 has been overcome. Accordingly, withdrawal of the rejections under 35 U.S.C. §103 is respectfully requested.

Having overcome all outstanding grounds of rejection, the application is now in condition for allowance, and prompt action toward that end is respectfully solicited.

Respectfully submitted,

JACOBSON HOLMAN PLLC

Date: July 18, 2006
(202) 638-6666
400 Seventh Street, N.W.
Washington, D.C. 20004
Atty. Dkt. No.: P69141US0

By 
John C. Holman
Registration No. 22,769



Appl. No. 10/661,808
Amdt. Dated July 18, 2006
Reply to Office Action of March 29, 2006
Annotated Sheet Showing Changes

1/12

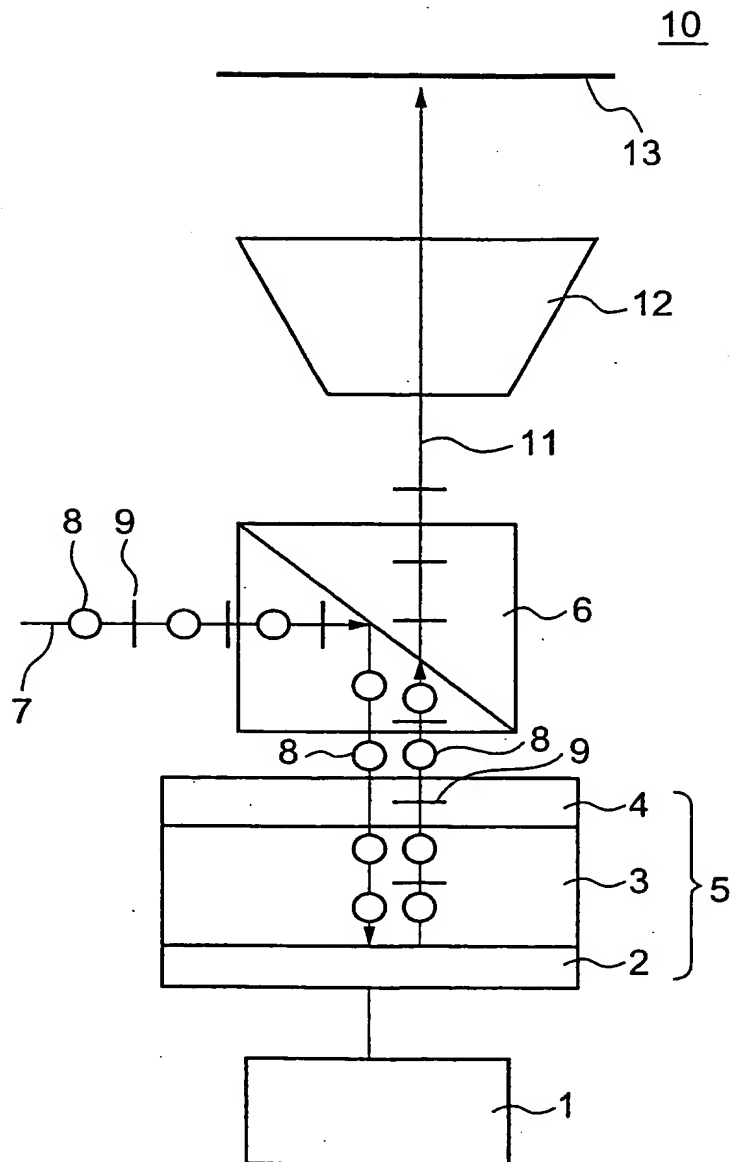


FIG. 1 (PRIOR ART)

2/12

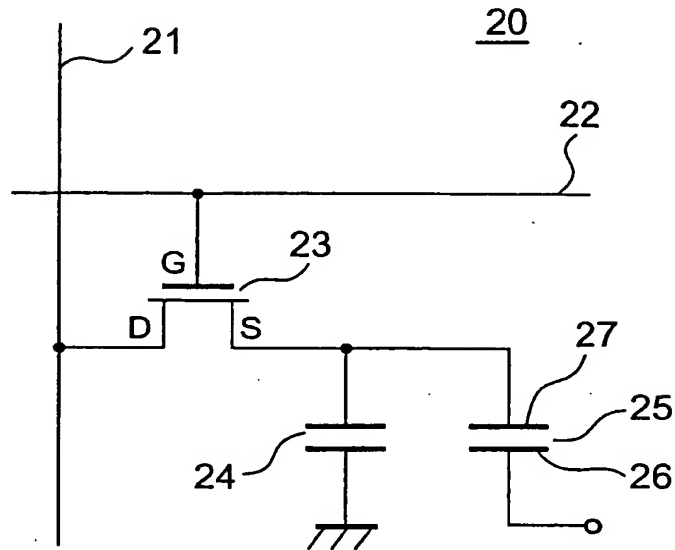


FIG. 2 (PRIOR ART)

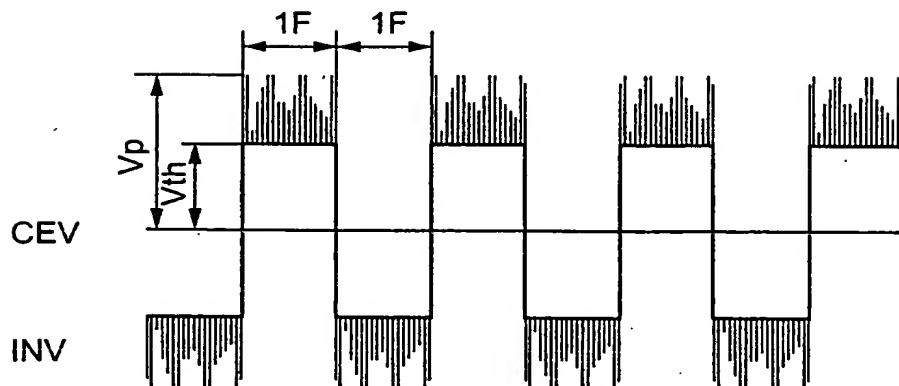


FIG. 3 (PRIOR ART)

3/12

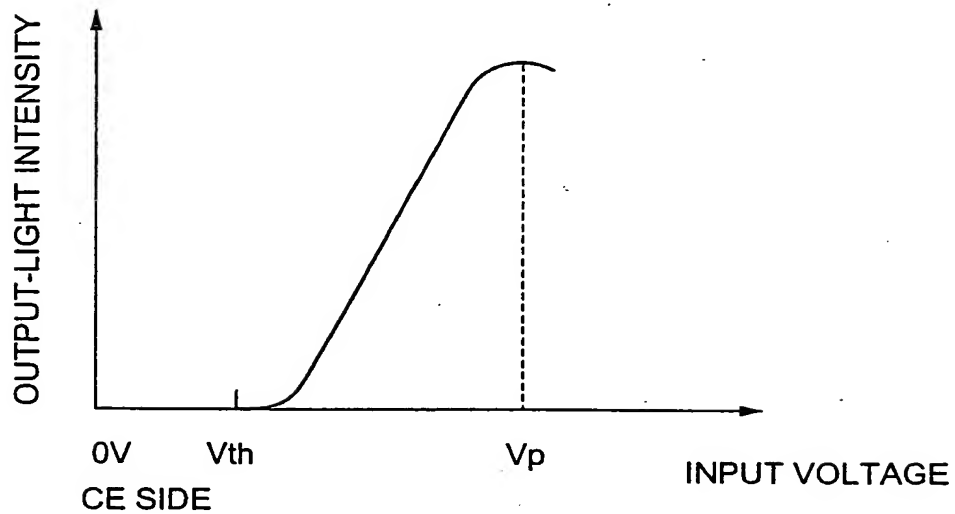


FIG. 4 (PRIOR ART)

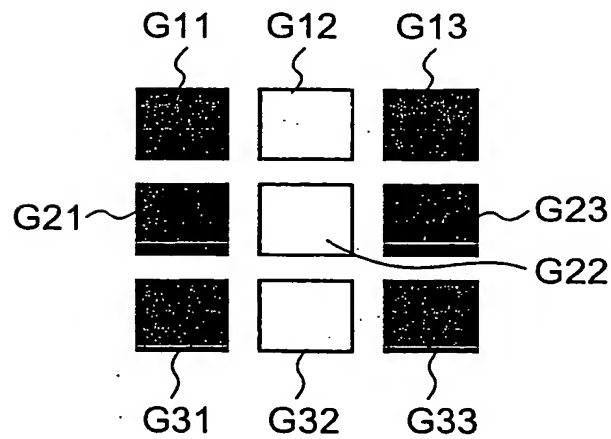


FIG. 5 (PRIOR ART)

4/12

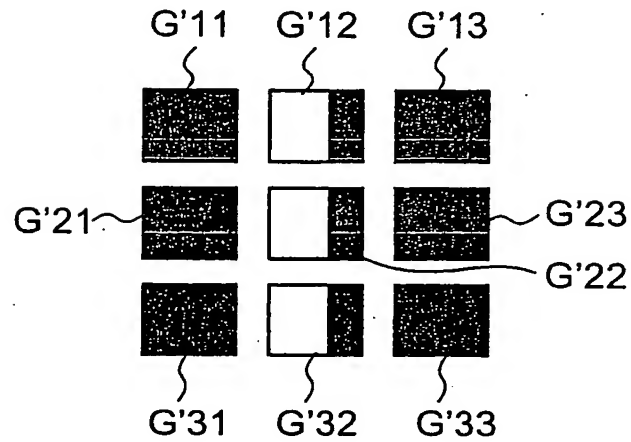


FIG. 6 (PRIOR ART)

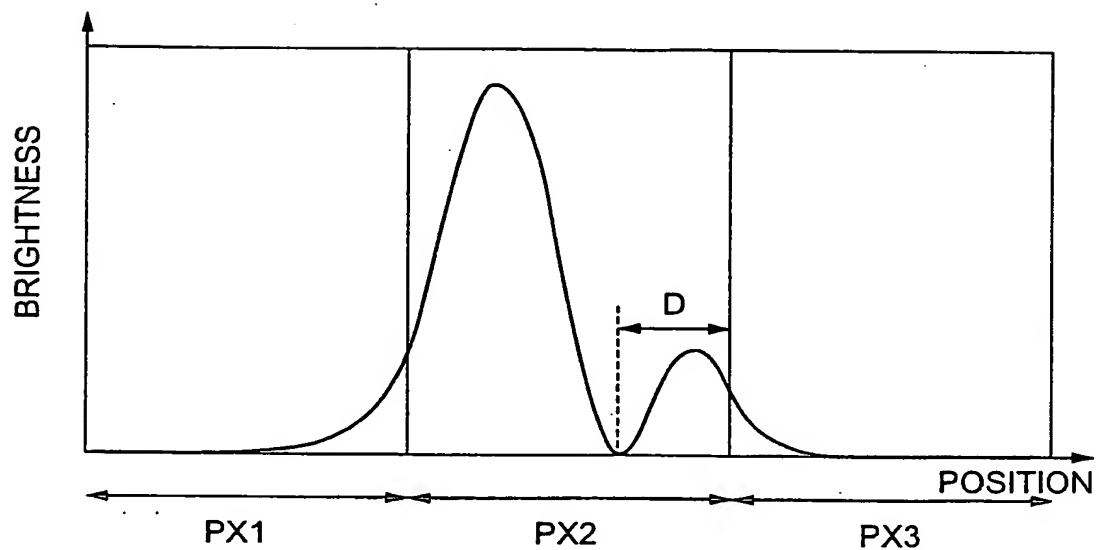


FIG. 7 (PRIOR ART)

5/12

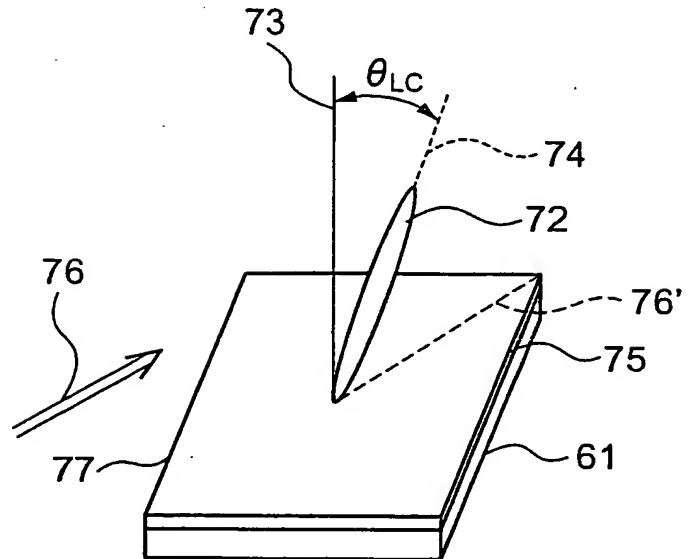


FIG. 8 (PRIOR ART)

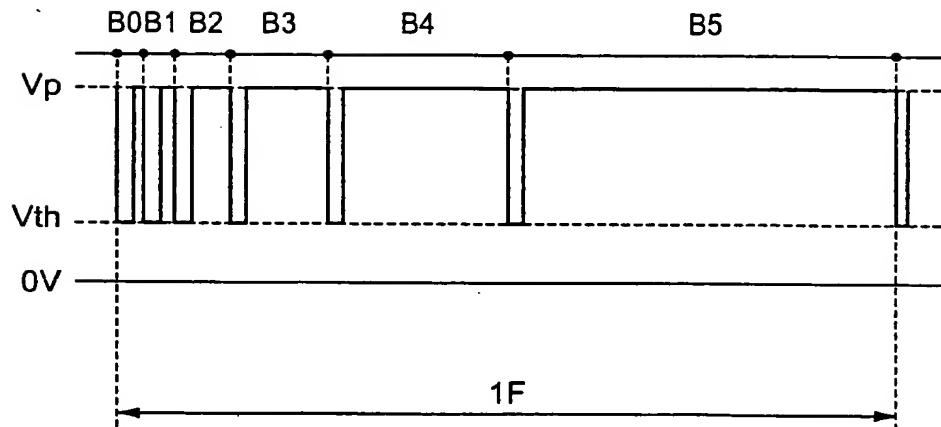


FIG. 9 (PRIOR ART)